

Amendments to the Claims:

1. (Currently Amended) A sensor assembly (1) for measuring movements of a fluid pump (10), the fluid pump (10) being located inside a hermetic housing (50) and being driven by an electric motor (30) and the electric motor (30) being connectable to a feed voltage (V),

the sensor assembly (1) comprising an accelerometer (2), ~~and being characterized in that the accelerometer (2) is being~~ electrically associated to a bias circuit (51), the accelerometer (2) ~~configuring comprising~~ first and second acceleration transducers (4a, 4b); and ~~in that it comprises~~ a feed terminal (34) and a signal terminal (33),

the feed terminal (34) being directly electrically connectable to the feed voltage (V) of the electric motor (30), and

the signal terminal (33) being electrically connectable to an external measuring circuit (55), the external measuring circuit (55) being located outside the hermetic housing (50),  
~~wherein and~~ the sensor assembly is being mounted in an internal position (50') of a hermetic housing (50) of the fluid pump (10).

2. (Currently Amended) A sensor assembly according to claim 1, characterized by comprising a weight (2a) connected to ~~a first insulating element (20') and a second insulating element (20'')~~, the first and second acceleration transducers (4a, 4b), ~~and the~~ signal terminal (33) and the feed terminal (34) projecting from the first and second acceleration transducers (4a, 4b), and a first insulating element (20') and a second insulating element (20'').

3. (Original) A sensor assembly according to claim 2, characterized by comprising at least one support means (3) for the accelerometer (2), the support means (3) comprising a base portion (3a), the base portion (3a) being fixedly associable to the fluid pump (10).

4. (Original) A sensor assembly according to claim 3, characterized in that the first insulating element (20') is positioned on the surface (3a) of the support (3).

5. (Currently Amended) A sensor assembly according to claim 4, characterized in that the first and the second acceleration transducers (4a, 4b), the second insulating element (20'') and the weight (2a) are positioned ~~overlapping on~~ the first insulating element (20').

6. (Currently Amended) A sensor assembly according to claim 5 wherein the bias circuit (51) associated to the accelerometer (2) is mounted in an internal portion (50') of the hermetic housing (50) and connected to the measuring circuit (55).

7. (Original) A sensor assembly according to claim 6, characterized in that the bias circuit (51) comprises a transistor (51a) operatively associated to the signal terminal (33) and to the feed terminal (34).

8. (Original) A sensor assembly according to claim 7, characterized in that the external measuring circuit (55) comprises a microprocessor (52), the microprocessor (52) measuring the signal of the sensor assembly (1) by means of the signal terminal (33).

9. (Currently Amended) A fluid pump (10) comprising:  
a cylinder (58),  
a piston (57), and  
a hermetic housing (50) comprising a hermetic terminal (60) and hermetically enclosing the cylinder (58) and the piston (57), forming a hermetic assembly (100),  
the piston (57) being driven by an electric motor (30), the electric motor (30) being connected to an electric voltage (V) by means of a pair of voltage terminals (61, 62) associated to the hermetic terminal (60),  
the fluid pump (10) being characterized by comprising a sensor assembly (1) associated to the cylinder (58), the sensor assembly (1) comprising a feed terminal (34) and a signal terminal (33), the feed terminal (34) being directly connected to one of the voltage terminals (61, 62) and the signal terminal (33) being electrically connectable to an external measuring circuit (55), the external measuring circuit (55) being located outside the hermetic housing (50),  
the sensor assembly (1) comprising a bias circuit (51) associated to an accelerometer (2),

the ~~bias circuit (51)~~ sensor assembly (1) being mounted in an internal portion (50') of the hermetic housing (50).

10. (Previously Presented) A fluid pump according to claim 9, characterized in that the sensor assembly (1) comprises the accelerometer (2) associated to a support means (3), the support means (3) being fixed to the hermetic assembly (100).

11. (Original) A fluid pump according to claim 10, characterized in that the sensor assembly (1) comprises a base portion (3a), the base portion (3a) being fixedly associable to the hermetic assembly (100).

12. (Previously Presented) A fluid pump according to claim 11, characterized in that the sensor assembly (1) comprises a weight (2a), connected to a first insulating element (20') and to a second insulating element (20''), first and second acceleration transducers (4a, 4b), the feed terminal (34) and the signal terminal (33) projecting from the first and second acceleration transducers (4a, 4b).

13. (Original) A fluid pump according to claim 12, characterized in that the first insulating element (20') is positioned on the surface (3a) of the support of the sensor assembly (1).

14. (Currently Amended) A fluid pump according to claim 13, characterized in that the first and second acceleration transducers (4a, 4b), the second insulating element (20'') and the weight (2a) are positioned ~~overlapping on~~ overlapping on the first insulating element (20').

15. (Original) A fluid pump according to claim 14, characterized in that the bias circuit (51) comprises a transistor (51a) operatively associated to the signal terminal (33) and to the feed terminal (34).

16. (Original) A fluid pump according to claim 15, characterized in that the external measuring circuit (55) comprises a microprocessor (52), the microprocessor (52) measuring the signal of the sensor assembly (1) by means of the signal terminal (33).

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17. (Currently Amended) A fluid pump according to claim 16, characterized in that the hermetic housing (50) comprises the hermetic terminal (60) for passage of the feed terminal (34) and signal terminal (33).

18. (Original) A cooler characterized by comprising a sensor assembly (1), as defined in claim 1.